

# SETTING NEW STANDARDS FOR BIO-BEHAVIORAL SURVEYS IN POPULATIONS AT RISK FOR HIV

## OVERVIEW

Key populations – marginalized and stigmatized populations including men who have sex with men (MSM), sex workers, people who inject drugs, and transgendered women – bear not only the brunt of the HIV epidemics worldwide, but also suffer impeded access to HIV testing, care, and treatment. Because key populations are socially hidden, no sampling frames exist, making surveys to examine their burden of disease and making access to services for these populations that much harder. Complex sampling designs are needed in order to overcome this challenge and provide population-level estimates for the burden of HIV, risk factors for HIV infection, as well as for the coverage of services for these disadvantaged populations.

The *Behavioral Surveillance Survey Guidelines (BBS)* issued in 2000 have been the most often used resource to date; however, new data needs, methods, and technologies have resulted in the need to thoroughly update the *Guidelines*. The U.S. Centers for Disease Control and Prevention (CDC) in collaboration with several partners including World Health Organization (WHO), UNAIDS, and FHI360, is preparing to publish the *Guidelines for Biobehavioral Surveys in Populations at Risk for HIV*, which outline the latest approaches and methodologies for planning and conducting biobehavioral surveys among key populations.

## CDC'S ROLE

CDC, in collaboration with FHI360, UNAIDS, WHO and individual consultants, developed the new *BBS Guidelines* for policymakers, organizations, and technical staff who are planning or conducting BBS among key and other high risk populations.

### What are the *Guidelines for Biobehavioral Surveys in Populations at Risk for HIV*?

The new *Guidelines* are a comprehensive resource covering all survey aspects, from survey conceptualization to report dissemination and data use. The ultimate goal of these *Guidelines* is to facilitate the collection of high-quality survey data for informed public health action. The new *Guidelines*:

- Update the overall approach and methodology of BBS guidelines in light of advances made during the past two decades
- Improve the quality of BBS guidelines by providing comprehensive guidance, particularly for sampling methods and the collection of interview and biomarker data
- Increase the relevance of survey data for public health programming by ensuring the collection of representative and actionable data
- Promote the use of survey findings to improve service delivery, monitoring and evaluation, and policy development

### What is new in the *Guidelines*?

The *BBS Guidelines* include several new features including chapters on formative assessment, respondent-driven sampling, and biomarkers; data collection instruments; and indicators.

- Formative assessments include the initial collection of information about a population to inform how best to prepare and conduct a BBS.
- Respondent-driven sampling, a peer-driven chain-referral sampling method that is particularly useful for hard-to-sample populations, is currently viewed as the most suitable probability-based sampling design.
- The biomarkers chapter is completely new and covers the entire range of biological measurements from HIV serology to viral load, HIV recency, as well as markers of other sexually transmitted infections. The *Guidelines* emphasize the potential of population-level, aggregate viral load metrics, including the proportion of HIV-infected target population members with suppressed viral load and the prevalence of unsuppressed viral load.
- The *Guidelines* also include a completely revised suite of questionnaire modules covering a wide range of topics. Among the modules is a section on exposure to and uptake of HIV related services, including questions about why persons may shun such services. CDC is currently developing electronic ready-to-use questionnaires for both Android- and Windows-based devices for all questionnaire modules.
- As part of its annex, the *Guidelines* also list standard and newly-proposed indicators for both data and biomarker-related metrics.

## Population size estimation as part of BBS

Population size estimates of hard-to-count populations are difficult to obtain and no gold standard exists. Various and diverse techniques to estimate population sizes exist. Some are based on empirical data and others are more qualitative in nature. Investigators should always attempt to estimate population sizes using multiple techniques and use data triangulation to derive the most plausible estimates. BBS provide an opportunity to estimate population sizes and therefore should always include suitable size estimation techniques. The *Guidelines* provide advice on how to estimate population sizes in conjunction with BBS implementation, including multiplier and capture-recapture methods. In addition, BBS can provide estimates of social visibility needed to adjust population size estimates derived from the Network Scale-Up Method incorporated into general population household-based surveys.

## Building capacity for BBS

To further promote the survey standards that the *Guidelines* suggest, CDC is developing several training packages based on the *Guidelines*, including 1) planning and implementing BBS, 2) respondent-driven sampling, 3) estimating population size (often part of a BBS), and 4) analyzing complex survey data. The workshops will provide practical, hands-on training to facilitate high-quality data collection and data analysis, especially among local Ministries of Health, university, and NGO staff. The first workshop was held in China in March 2016; additional workshops will be held in all regions supported by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR).

## ACCOMPLISHMENTS / RESULTS

The *BBS Guidelines* are expected to be released in late 2016 or early 2017. Electronic questionnaires are expected at the same time. Training materials have been developed for the analysis of complex survey data and are being developed for survey planning and implementation, as well as for population size estimation.

## FUTURE EFFORTS

Future efforts include a series of training workshops for all PEPFAR regions to build capacity reflecting contents of the *BBS Guidelines*. We expect the BBS questionnaires to be a suite of living documents, which will be periodically reviewed and updated to reflect the latest standards for data measures and instruments.

## BENEFITS OF WORK

The *BBS Guidelines* will serve as a one-stop resource for survey planning, implementation, and dissemination of findings. The *Guidelines* will improve the quality of survey data through better survey design and collection of high-quality data, including biomarkers. Our electronic data instruments will facilitate paperless data collection. Furthermore, the *Guidelines* promote the standardization of data measures to make survey data more comparable. Most of all, the *Guidelines* should make it easier to plan and conduct BBS. By providing sample documents and guidance on every step of the process, these *Guidelines* strengthen the capacity of public health workers to collect the information they need in a timely and effective manner to strategically respond to and control the HIV epidemic.